



# CITY OF LODI

## COUNCIL COMMUNICATION

**AGENDA TITLE:** Discussion and Recommendations on Results of Traffic Study for Area Bounded by Stockton Street to Garfield Street and Walnut Street to Locust Street

**MEETING DATE:** September 20, 2000

**PREPARED BY:** Public Works Director

**RECOMMENDED ACTION:** That the City Council review the results of the attached area study report (including Exhibit A and Exhibit B); approve the installation of a multi-way stop control at the intersection of Elm Street and Stockton Street; and give staff direction to proceed with plans and specifications to install bow-outs at the intersections of Washington Street at Pine Street, Washington Street at Elm Street, and Central Avenue at Pine Street.

**BACKGROUND INFORMATION:** Based on the recent opening of the charter school located at Pine Street and Central Avenue, and other complaints received in the area, the area lying within the area bounded by Lockeford Street (north), Lodi Avenue (south), Stockton Street (west), and Cherokee Lane (east) was reviewed. The results of the review revealed five intersections with accident histories warranting further investigation. These intersections are listed below and described in the attached area study report.

- Elm Street at Stockton Street
- Pine Street at Stockton Street
- Washington Street at Pine Street
- Washington Street at Elm Street
- Central Avenue at Pine Street

**RECOMMENDATIONS:** Based on the results of the study, staff recommends that City Council amend Traffic Resolution #97-148 to approve the installation of a multi-way stop control at the intersection of Elm Street and Stockton Street (Exhibit C). With this, we will also reinstall the marked pedestrian crosswalk across the north leg of the intersection.

At the intersection of Pine and Stockton streets, we will be installing improvements, such as advance warning signs or larger stop signs. The intersection is already controlled by a multi-way stop.

At the three intersections controlled by two-way stops (Washington Street at Pine Street, Washington Street at Elm Street, and Central Avenue at Pine Street), staff recommends City Council give staff direction to proceed with plans and specifications to install bow-outs. Additionally, at the intersection of Washington Street and Pine Street, staff recommends adding marked pedestrian crosswalks across both the north and south legs, and removing the crosswalk across the east leg of the intersection. Removal of the crosswalk across the west leg is also recommended at the intersection of Washington Street and Pine Street. The marked crosswalks across the uncontrolled legs of these intersections will be enhanced with the ladder design.

**FUNDING:** Funding for the installation of a multi-way stop at one intersection from the Street Maintenance Account at an approximate cost of \$600. Cost to install bow-outs at the four corners of an intersection is approximately \$22,200; the total for the three locations would be approximately \$66,600. Funding for the bow-outs will be from the Street Fund.

Funding Available:

Vicky McAthie, Finance Director

  
Richard C. Prima, Jr.  
Public Works Director

Prepared by Rick S. Kiri, Senior Engineering Technician

RCP/RSK/lm

Attachments

cc: Randy Hays, City Attorney

Jerry Adams, Police Chief

Wally Sandelin, City Engineer

George Bradley, Street Superintendent

Carlos Tobar, Transportation Manager

Concerned Citizens

Paula Fernandez, Associate Traffic Engineer

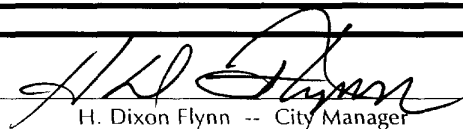
Mamie Starr, Assistant Superintendent, LUSD Facilities and Planning

Frank Biglow, LUSD Police Services

Charter School Principal – Gillespie

Eastside Improvement Committee

APPROVED:

  
H. Dixon Flynn -- City Manager

CAREASTUDY

09/14/00

# **Stockton Street to Garfield Street and Walnut Street to Locust Street Area Study Report**

**Study Information** – In performing the area study, consideration was given to traffic circulation and the affect actions taken may have on other streets in the study area. The primary concern in the study area was speeding on Pine and Elm streets. With the intent to slow traffic, requests have been made to install stop signs at some intersections along these streets. While reducing speeds is important, cities need street systems that will allow vehicle traffic to travel relatively long distances without unnecessary interruptions. For this reason, the use of stop signs just to reduce vehicle speeds is not a recommended practice. Studies show that the indiscriminate use of stop signs on major streets can, among other things, divert traffic onto other less desirable parallel minor streets. And, since traffic controls are used to assign right-of-way at intersections, not control vehicle speeds, the answer would be to slow traffic and make the streets more pedestrian friendly without adversely affecting other streets in the study area or unnecessarily delaying drivers.

Within the study area the two major east/west roadways are Elm and Pine streets. Stockton Street and Central Avenue are the two major north/south roadways. These roadways extend across the long portions of the city and are designed to carry the majority of local as well as through traffic. Minor streets intersecting the major streets are usually controlled by stop signs. At intersections of two major streets, there is often the need for a more restrictive control, such as a multi-way stop or traffic signal, due to the higher vehicle speeds and volumes on both streets.

When multi-way stops are being considered, Caltrans guidelines are used. Caltrans guidelines consider traffic and pedestrian volumes entering the intersection and accidents of the type that would be eliminated or reduced by installing a multi-way stop control. Traffic volumes on both streets should be about equal at locations where multi-way stops are considered. At locations where there is a large disparity between traffic volumes, all major street traffic will be required to stop for the relatively small amount of cross street traffic. Studies show that drivers who feel they are stopped unnecessarily tend to “run” the stop as well as increase their speeds between intersections to make up for what they perceive as lost time. Multi-way stop controls are the most restrictive type of control and should be used only if other less restrictive remedies to reduce accident frequency have been attempted first. Often, visibility problems due to parked vehicles or landscaping can be improved to reduce accident frequency at intersections where multi-way stop controls are requested.

As Pine and Elm streets are the two major east/west streets in the study area, placing unneeded stop signs on these streets would divert traffic onto adjacent parallel streets, creating additional traffic and requests for additional stop signs at locations where problems did not previously exist (a sort of domino effect).

**Study Results** – The study includes the review of traffic accidents, traffic volumes, land use, existing traffic controls, and street layout. This information, as well as the existing speed limits and critical speeds (85<sup>th</sup> percentile) are summarized in **Exhibit A**. This review resulted in five intersections receiving detailed analysis:

Elm Street at Stockton Street – Traffic at this intersection is controlled by stop signs on Elm Street. Stockton Street traffic is not controlled. Elm Street is classified as a major collector and carries approximately 2,150 vehicles per day (vpd) and has a speed limit of 25 miles per hour (mph). Stockton Street is a secondary arterial carrying approximately

5,730 vpd with a speed limit of 30 mph. Pedestrian generators in the area consist of Hale Park, a church, and commercial businesses. Marked pedestrian crosswalks exist across all legs of the intersection, except the north leg. Staff reviewed this intersection last year due to the number of accidents observed at the intersection. Based on our suspicion that drivers on Elm Street thought Stockton Street traffic was also controlled by stop signs, the north crosswalk was removed in November 1999. Marked crosswalks on all four legs can give the appearance to drivers that the intersection has multi-way stops. This is understandable since traffic must stop behind crosswalks where traffic controls exist. While the results appear favorable, it is too early to determine if the removal of the crosswalk has permanently affected accident frequency. At this time, the intersection does satisfy Caltrans guidelines for the consideration of a multi-way stop control based on accidents. There were no pedestrian accidents in the study period.

Of the five streets studied, the intersection of Elm Street and Stockton Street is the most suitable for a multi-way stop control as it satisfies Caltrans guidelines, trial of less-restrictive remedy has been attempted, traffic volumes are relatively high, and the volume split between the two streets is acceptable. Although this intersection is close to the intersection of Pine and Stockton streets, which is only a block away, both controls are at the intersections of major streets.

Pine Street at Stockton Street – Traffic at this intersection is already controlled by a multi-way stop. Pine Street is a major collector and carries approximately 5,910 vpd and has a speed limit of 30 mph. Stockton Street is a secondary arterial carrying approximately 5,690 vpd and also has a speed limit of 30 mph. All corners are commercial except the southwest corner, which is residential. Marked crosswalks exist across all legs of the intersection. This intersection was included in this year's Signal Priority Study update; however, it did not satisfy Caltrans guidelines for the installation of traffic signals.

Even though this intersection is already controlled by a multi-way stop control, accidents persist. This is a good example showing that multi-way stop controls do not always eliminate accidents. Staff will be installing improvements, such as advance warning signs or larger stop signs, at the intersection since there were a higher number of failure-to-stop accidents reported at this intersection than would be expected.

Washington Street at Elm Street – Traffic at this intersection is controlled by stop signs on Washington Street. Elm Street traffic is not controlled. Washington Street is classified as a residential street and carries approximately 1,030 vpd and has a speed limit of 25 mph. Elm Street is a major collector carrying approximately 2,110 vpd and also has a speed limit of 25 mph. The major pedestrian generator in the area consists of Hale Park with all other adjacent areas residential. Marked pedestrian crosswalks exist across the east and west legs of the intersection. Caltrans guidelines for the consideration of multi-way stop controls were not satisfied at this location. Parking demand in the area is relatively high and affects the visibility of vehicles stopped on Washington Street at Elm Street. There was one pedestrian accident during the study period where an eastbound driver failed to see a crossing pedestrian because the sun was in his eyes.

Washington Street at Pine Street – Traffic at this intersection is controlled by stop signs on Washington Street. Pine Street traffic is not controlled. Washington Street is classified as a residential street and carries approximately 1,150 vpd with a speed limit of 25 mph. Pine Street is a major collector carrying approximately 6,430 vpd with a speed limit of 30 mph. The pedestrian generator in the area consists of a fast food restaurant; all other corners are residential. Marked pedestrian crosswalks exist across all legs of the intersection. This intersection satisfied Caltrans guidelines for the consideration of a multi-way stop control due to the number of correctable accidents;

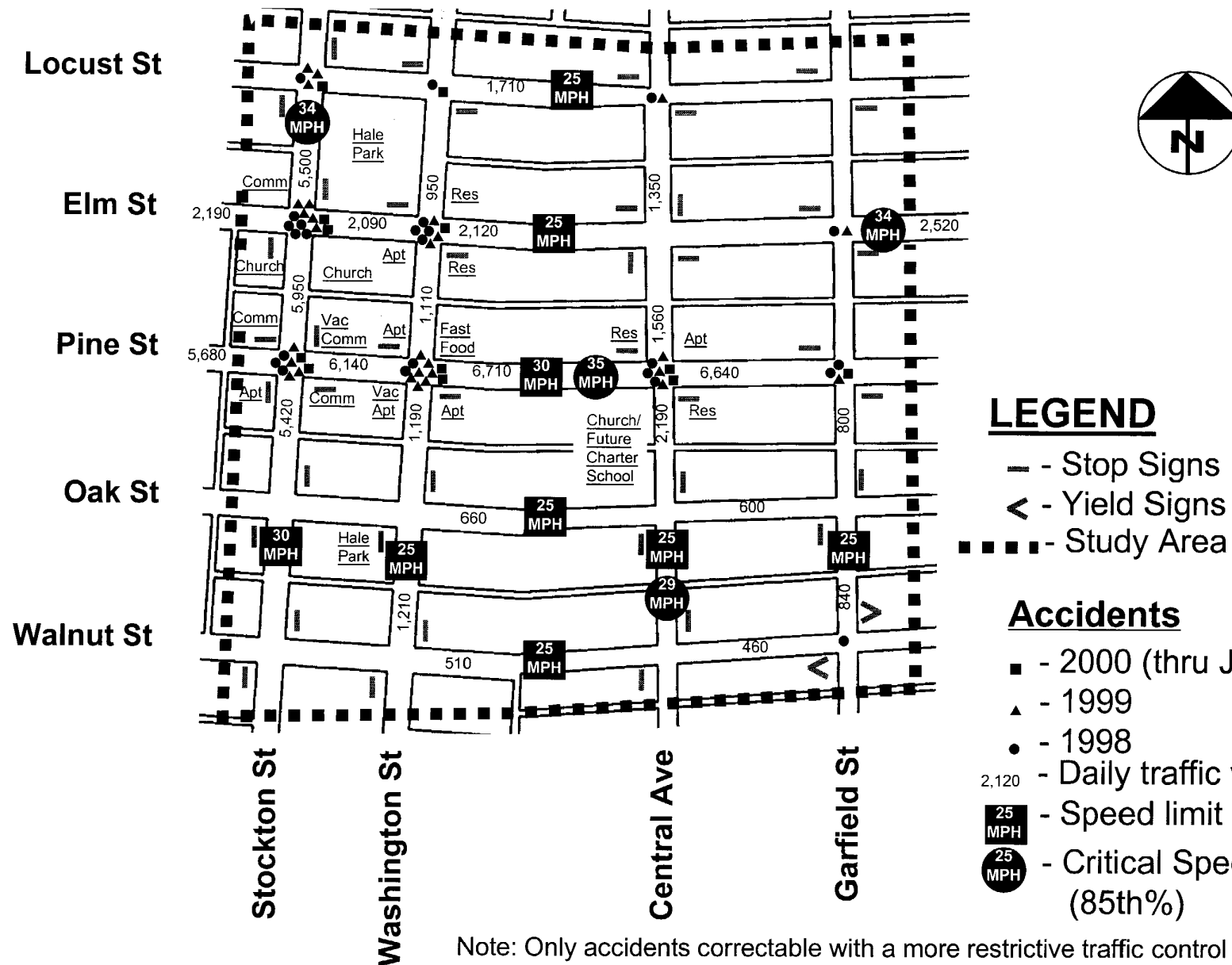
however, a trial of a less-restrictive remedy to reduce accidents has not been considered first. Also, the volume disparity of 84%/16% is very poor for a multi-way stop. Parking in the area is relatively high and visibility problems were noted during a field review of the intersection. There were no pedestrian accidents at this intersection in the study period.

Central Avenue at Pine Street – Traffic at this intersection is controlled by stop signs on Central Avenue. Pine Street traffic is not controlled. Central Avenue is classified as a minor collector and carries approximately 1,880 vpd and has a speed limit of 25 mph. Pine Street is a major collector carrying approximately 6,680 vpd with a speed limit of 30 mph. The pedestrian generator in the area is a church that will be converted to a charter school opening in September. All other corners are residential. Church activities will continue at the site for approximately two years, until they relocate to an alternate site. We have worked with the Lodi Unified School District (LUSD) to prepare for the school opening, and all required school area signing and markings are in place. No parking zones have also been installed adjacent to the school site for improved visibility of pedestrians and LUSD indicated they would be placing an adult crossing guard at the intersection of Pine Street and Central Avenue. The crossing guard will assist students going to and from school. Marked pedestrian crosswalks exist across all but the east leg of the intersection. No pedestrian accidents occurred at the intersection; however, earlier this year, an intoxicated pedestrian was struck 54 feet west of the intersection. Caltrans guidelines for the consideration of a multi-way stop control were not satisfied at this intersection. Parking in the area is relatively high and visibility problems were noted during a field review of the intersection.

At the last three intersections studied, Washington and Elm streets, Washington and Pine streets, and Central Avenue and Pine Street, visibility problems created by parked vehicles were observed and may have contributed to accidents occurring at the intersections. Although the intersection of Pine and Washington streets also satisfied Caltrans guidelines for the consideration of a multi-way stop control, less-restrictive remedies to reduce accident frequency have not been attempted, and the traffic volume split is not favorable for a multi-way stop control.

Typically, when visibility problems exist, no-parking zones are installed. An alternative which reduces or eliminates the need to remove parking is to install bow-outs at the corners, similar to those constructed in the downtown area. In addition to improving visibility of approaching traffic, bow-outs also slow turning traffic and greatly reduce the crossing distance for pedestrians. Pedestrians are also more visible to approaching drivers as they stand at the curb. An example of bow-outs at the intersection of Central Avenue and Pine Street is shown on **Exhibit B**. The alternative, which would only address the visibility issue, would be to eliminate parking in front of parcels adjacent to the intersection. We are recommending more bow-outs on Pine Street than Elm Street as traffic volumes are higher on Pine Street and a multi-way stop already exists at the Elm Street intersection with Central Avenue.

# Intersection Accident History



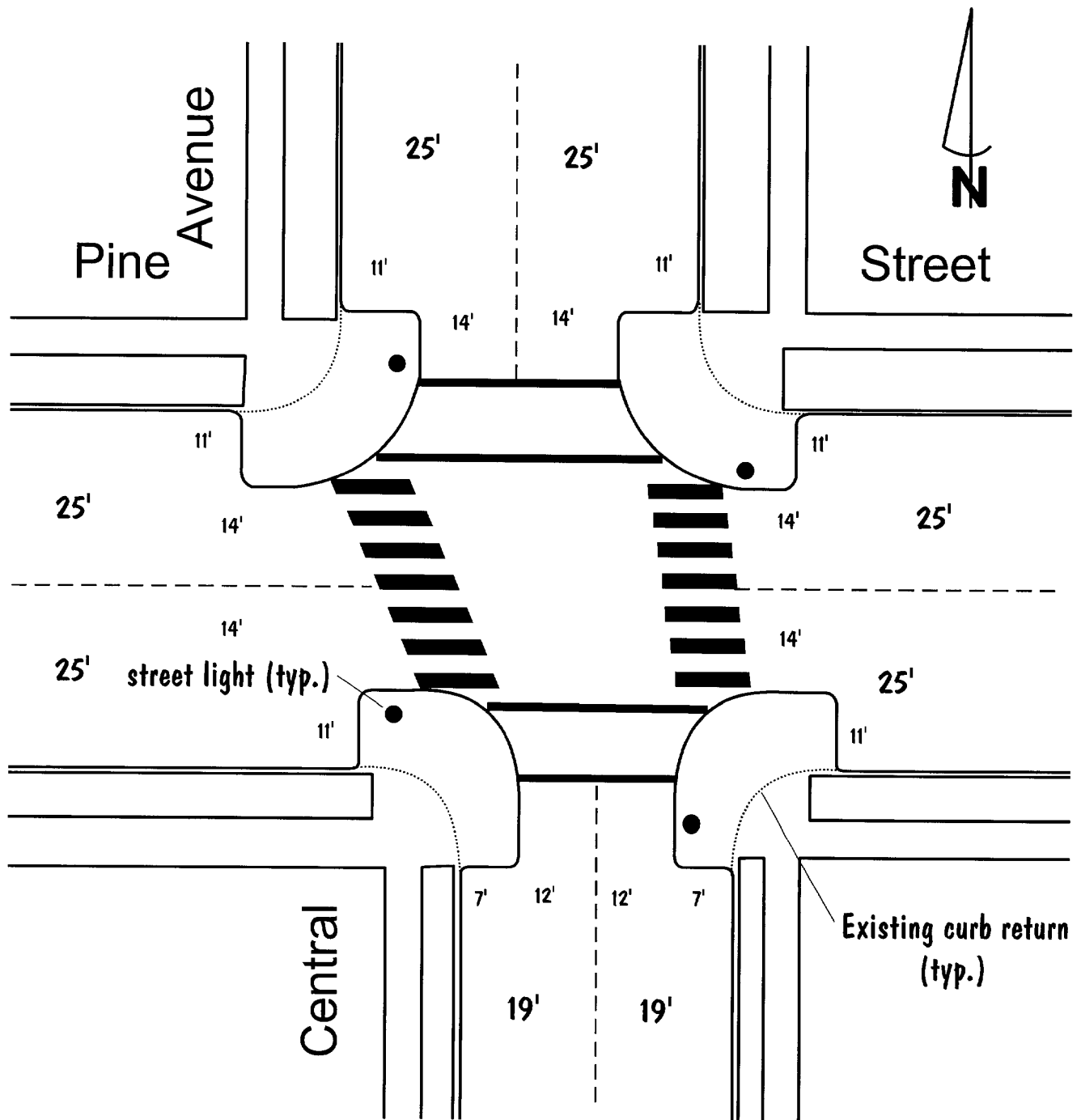


**CITY OF LODI**

PUBLIC WORKS DEPARTMENT

**Pine Street  
at Central Avenue**

**Intersection Bow-outs  
Conceptual Plan**



1" = 20'

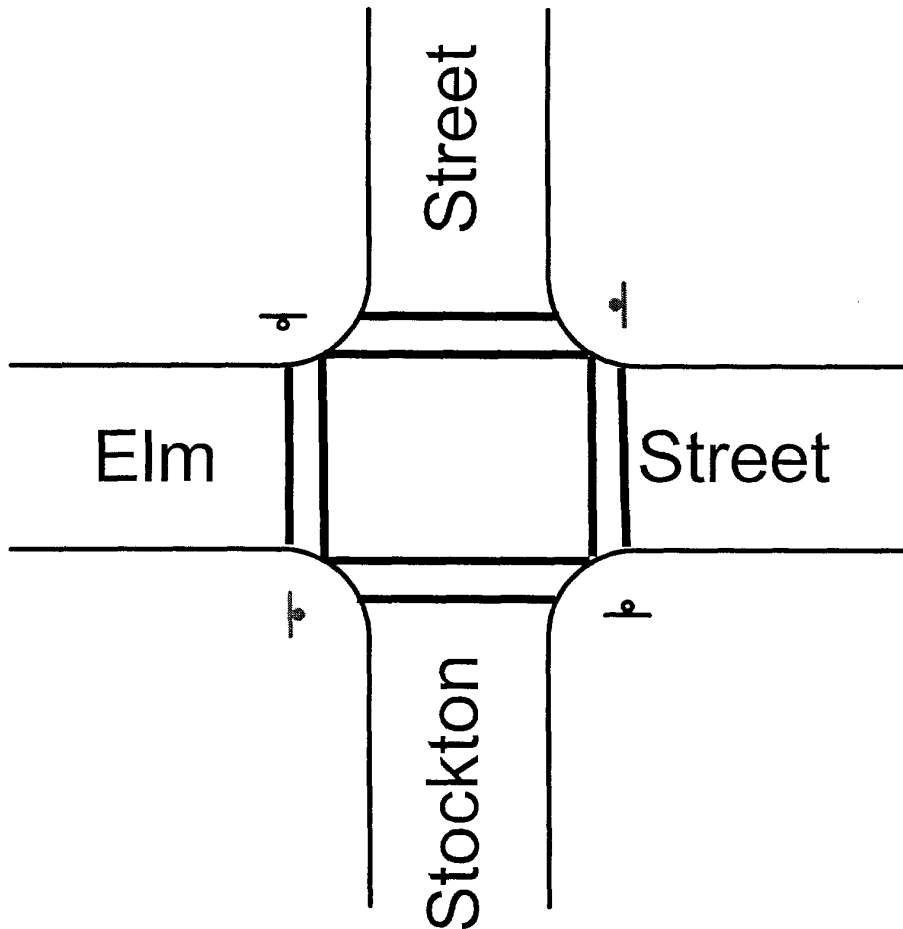


**CITY OF LODI**


PUBLIC WORKS DEPARTMENT

**Elm Street at  
Stockton Street**

Intersection Control



**LEGEND**

 - Proposed Stop Signs

 - Existing Stop Signs

RESOLUTION NO. 2000-175

A RESOLUTION OF THE LODI CITY COUNCIL AMENDING TRAFFIC  
RESOLUTION BY INSTALLING MULTI-WAY STOP CONTROLS AT  
THE INTERSECTIONS OF WASHINGTON AND ELM STREETS,  
PINE STREET AND CENTRAL AVENUE AND  
ELM AND STOCKTON STREETS

=====

BE IT RESOLVED that the City Council of the City of Lodi does hereby approve amending the Traffic Resolution by installing multi-way stop controls at the intersections of Washington and Elm Streets, Pine Street and Central Avenue, and Elm and Stockton Streets, all without the construction of bow-outs; and

BE IT FURTHER RESOLVED, that City of Lodi Traffic Resolution No. 97-148, Section 2(C)(1) "Multi-Way Stop Intersections" is hereby amended by installing a multi-way stop control at the intersections of Washington and Elm Streets, Pine Street and Central Avenue, and Elm and Stockton Streets.

Dated: September 20, 2000

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I hereby certify that Resolution No. 2000-175 was passed and adopted by the City Council of the City of Lodi in a regular meeting held September 20, 2000, by the following vote:

AYES: COUNCIL MEMBERS – Hitchcock, Land, Nakanishi and Mayor Mann

NOES: COUNCIL MEMBERS – Pennino

ABSENT: COUNCIL MEMBERS – None

ABSTAIN: COUNCIL MEMBERS – None

  
SUSAN J. BLACKSTON  
City Clerk

CITY COUNCIL

STEPHEN J. MANN, Mayor  
ALAN S. NAKANISHI  
Mayor Pro Tempore  
SUSAN HITCHCOCK  
KEITH LAND  
PHILLIP A. PENNINO

CITY OF LODI  
PUBLIC WORKS DEPARTMENT

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H. DIXON FLYNN  
City Manager  
SUSAN J. BLACKSTON  
City Clerk  
RANDALL A. HAYS  
City Attorney  
RICHARD C. PRIMA, JR.  
Public Works Director

September 15, 2000

SUBJECT: Discussion and Recommendations on Results of Traffic Study for Area  
Bounded by Stockton Street to Garfield Street and Walnut Street to  
Locust Street

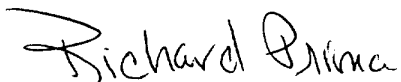
Enclosed is a copy of background information on an item on the City Council agenda of  
Wednesday, September 20, 2000. The meeting will be held at 7 p.m. in the  
City Council Chamber, Carnegie Forum, 305 West Pine Street.

This item is on the regular calendar for Council discussion. You are welcome to attend.

If you wish to write to the City Council, please address your letter to City Council,  
City of Lodi, P. O. Box 3006, Lodi, California, 95241-1910. Be sure to allow time for the  
mail. Or, you may hand-deliver the letter to City Hall, 221 West Pine Street.

If you wish to address the Council at the Council Meeting, be sure to fill out a speaker's  
card (available at the Carnegie Forum immediately prior to the start of the meeting) and  
give it to the City Clerk. If you have any questions about communicating with the  
Council, please contact Susan Blackston, City Clerk, at (209) 333-6702.

If you have any questions about the item itself, please call Rick Kiriu,  
Senior Engineering Technician – Traffic, at (209) 333-6800, extension 2668.



Richard C. Prima, Jr. *RCP*  
Public Works Director

RCP/pmf

Enclosure

cc: City Clerk

|||||  
KIP GEIS  
416 E PINE STREET  
LODI CA 95240

|||||  
MICKIE WOODWARD  
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|||||  
MARY LYNN CABREA  
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Charter School Principal Gillespie  
19 S. Central Ave.  
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Eastside Improvement Committee  
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